Letters

Moratorium on Fetal Research

Barbara Culliton's account of the National Research Act (News and Comment, 2 Aug., p. 426) does not state—evidently because no one knows—what impact the moratorium on fetal research will have on the continuing attempt to determine the effect of attenuated rubella vaccines on the fetus. Presumably, the law will damp down such studies, thus interfering with the search for knowledge aimed at protecting other, future fetuses from unnecessary or unwitting damage. Is this what the sponsors of the bill intended?

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According to the letter from Charles C. Edwards (13 Sept., p. 900), the Department of Health, Education, and Welfare (HEW) "may not conduct or support research . . . on a living human fetus, before or after the induced abortion of such fetus, unless such research is done for the purpose of assuring the survival of such fetus."

1) By what criterion is an aborted fetus adjudged "living"?

2) Does Edwards' directive imply that HEW *will* support research for the purpose of assuring the survival of an aborted fetus? Shades of Frankenstein!

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The Delaney Clause

The position of the Teratology Society on the Delaney Clause, as presented by Staples (Letters, 6 Sept., p. 813), contains a most illuminating non sequitur.

It is stated in the first paragraph of the society's resolution that there is seldom any conclusive evidence demonstrating that a suspect teratogen will be teratogenic in man. It is concluded, therefore, that (second paragraph) it would be inappropriate to apply a "Delaney regulation," and that (third paragraph) each case should be decided on its merits by competent scientists.

However, the facts stated in the first paragraph will equally support the converse of the society's conclusions. Because there is no hard evidence, the desirability of a "Delaney regulation" must be decided on philosophical or moral grounds. Here the members of the Teratology Society presumably have no more expertise than the same number of, perhaps, politicians. Also, in individual hearings, the scientific evidence will not be the decisive factor (as in the case of diethylstilbestrol). Competent scientists may find they have neither the expertise nor the power to make such decisions.

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Robert E. Staples speaks for the Teratology Society in opposing extension of the Delaney Clause to include teratogens. The Delaney Clause, he explains in a footnote, refers to an amendment in the Food, Drug, and Cosmetics Act which "mandates as law inferences about human hazards from observations in any lower organism at any dose of exposure." It applies in the case of possible carcinogenic food additives.

While it is quite possible that the Delaney Clause was ineptly drawn, I am disturbed by the position of the Teratology Society as quoted by Staples.

The central thrust of the Teratology Society's resolution is to shift the burden of proof from the promoters of a new technology or substance to those few volunteer organizations which have sufficient funding to present their case before such regulatory agencies as the Food and Drug Administration. The resolution cites the danger that extended application of the Delaney Clause ". . . . may falsely implicate agents that are or would be of social value." It refrains from adding that such agents might be of immense *economic* value to their manufacturers. The society prefers "to have policy decisions on these matters made by regulatory agencies. . . ." It is almost a cliché today that federal regulatory agencies tend to be dominated by those whom they regulate. As the mass application of new technologies and biochemical agents continues to proliferate, it is increasingly apparent that these regulatory agencies as constituted are incapable of assuring an adequate level of public health and safety.

I agree with the society that whatever bodies make the regulatory policy decisions should be "advised, if not administered, by competent and responsible scientists. . . ." The problem lies precisely in finding the necessary numbers of such scientists (or engineers) who are not subject to a conflict of loyalties. A scientist or engineer who feels it his duty to expose a public hazard in a product of the industry that provides his livelihood may risk economic reprisal by doing so. More subtly, his sense of loyalty to the industry may lead him subconsciously to discount or minimize evidence pointing to such a hazard.

Professional scientific and engineering societies, including the Teratology Society, could do much to resolve this problem were they to establish unequivocal standards supporting individual ethical actions by their members. Scientists, whether directly or indirectly working for an industry, would find it much easier to carry out their ethical responsibilities with respect to possible public hazards caused by that industry if they could be confident of full support from professional societies.

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Detection of Polarized Light

Porges (14 June, p. 1133) makes an interesting point about the use of polarized light for navigation by birds and insects. The curious yellow "fans" that one sees when looking at a brightly lit white surface through a polarizer show that the human eye also can detect polarized light. The mechanism of detection remains obscure. Fankuchen and Fankuchen (*1*) used a bundle of birefringent fibers immersed in a fluid with